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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,138	04/10/2001	Edwin Dair	003918.P002XX5	1627
27975	7590	11/03/2004	EXAMINER	
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A. 1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE P.O. BOX 3791 ORLANDO, FL 32802-3791			BELLO, AGUSTIN	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/833,138	DAIR ET AL.	
	Examiner	Art Unit	
	Agustin Bello	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 17-22 and 29-38 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 and 29-34 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-22 is/are allowed.
- 6) ☒ Claim(s) 7-10 and 35-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/2/04, 5/17/04, 05/22/02</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species I in the reply filed on 9/24/04 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7-10, 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kneier (U.S. Patent No. 6,371,633) in view of Scharf (U.S. Patent No. 6,369,924).

Regarding claims 1 and 35, Kneier teaches a base (apparent in Figure 1); at least a pair of vertical printed circuit boards (reference numerals 55, 56 in Figure 4) arranged thereon a first optoelectronic device (reference numeral 58 in Figure 4) having a first optical axis and a second optoelectronic device (reference numeral 59 in Figure 4) having a second optical axis, the first optoelectronic device having terminals coupled to one the vertical printed circuit boards (inherent) and the second optoelectronic device having terminals coupled another one of the vertical printed circuit boards (inherent), the at least pair of vertical printed circuit boards being arranged perpendicular to the base (as seen in Figure 4); at a least third printed circuit board (as seen in element 52 in Figure 4) including a third optoelectronic device (reference numeral 84 in Figure 4) having a third optical axis, the third optoelectronic device having terminals coupled to the third printed circuit board (inherent) and at least fourth printed circuit board (as seen in

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element 52 in Figure 4) including a fourth optoelectronic device (reference numeral 85 in Figure 4) having a fourth optical axis, the fourth optoelectronic device having terminals coupled to the fourth printed circuit board (inherent). Kneier differs from the claimed invention in that Kneier fails to specifically teach that each respective printed circuit board is arranged parallel to the optical axis of each respective optoelectronic devices are arranged thereon. However, arranging printed circuit boards in this manner is well known in the art. Scharf, in the same field of optoelectronic devices teaches that this arrangement is well known in the art. One skilled in the art would have been motivated to arrange the printed circuit boards of Kneier parallel to the optical axis of each respective optoelectronic devices are arranged thereon as taught by Scharf in order to eliminate the need for coupling elements 65 and 87 in Kneier, thereby reducing the overall cost and size of the optoelectronic element. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to arrange the printed circuit boards of Kneier parallel to the optical axis of each respective optoelectronic devices are arranged thereon as taught by Scharf.

Regarding claims 8 and 37, the combination of references teaches a housing (reference numeral 11 in Figure 1 of Kneier) coupled to the base.

Regarding claims 9 and 38, the combination of references teaches that the housing is a shielded housing to encase the at least pair of vertical printed circuit boards and the at least third and the at least fourth printed circuit boards to reduce electromagnetic interference (EMI) (column 2 lines 55-57 of Scharf).

Regarding claim 10, the combination of references teaches an optical block (reference numeral 1 in Figure 1 of Kneier) coupled to the first, second, Third and fourth optoelectronic

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devices, the optical block having a first, second, third and fourth openings (reference numeral 54, and 55 in Figure 2 of Scharf and naturally extended in the combination with Kneier) to receive the first, second, third and fourth optoelectronic devices respectively. The combination of references differs from the claimed invention in that it fails to specifically teach a first, second, third, and fourth lens to couple photons between the first, second, third and fourth optoelectronic devices and first, second, third and fourth optical fibers respectively. However, the use of lenses in optoelectronic modules such as those taught the combination of references is very well known in the art. One skilled in the art would have been motivated to include the use of such lenses in order improve coupling efficiency between the optoelectronic devices and the optical fibers. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include lenses for each of the optoelectronic device in the combination of references.

Allowable Subject Matter

4. Claims 17-22 are allowed.
5. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach of fully suggest base having a first, a second, a third and a fourth opening, a first vertical printed circuit board (PCB) arranged parallel to a first optical axis of a first optoelectronic device, the first optoelectronic device having terminals coupled to the first vertical printed circuit board, the first vertical printed circuit board arranged perpendicular to the base, the first vertical printed circuit board having a plurality of pins extending through the first opening in the base to couple to a system; a second vertical printed circuit board (PCB) arranged parallel to a second optical axis of a second optoelectronic device, the second optoelectronic device having terminals coupled to the second vertical printed circuit board, the second vertical

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printed circuit board arranged perpendicular to the base, the second vertical printed circuit board having a plurality of pins extending through the second opening in the base to couple to the system; a third horizontal printed circuit board (PCB) arranged parallel to a third optical axis of a third optoelectronic device, the third optoelectronic device having terminals coupled to the third horizontal printed circuit board, the third horizontal printed circuit board arranged parallel to the base, the third horizontal printed circuit board having a plurality of pins extending through the third opening in the base to couple to the system; a fourth horizontal printed circuit board (PCB) arranged parallel to a fourth optical axis of a fourth optoelectronic device, the fourth optoelectronic device having terminals coupled to the fourth horizontal printed circuit board, the fourth horizontal printed circuit board arranged parallel to the base, the fourth horizontal printed circuit board having a plurality of pins extending through the fourth opening in the base to couple to the system; and a shielded housing coupled to the base to encase the first vertical, second vertical, third horizontal, and fourth horizontal printed circuit boards to reduce electromagnetic interference (EMI).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Agustin Bello
Examiner
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A handwritten signature in black ink, appearing to read 'A. Bello', with a stylized flourish at the end.

AB